

ABSTRACT

An interconnect for semiconductor components such as dice, wafers and chip scale packages is provided. The interconnect includes a substrate, and patterns of contacts formed on a face side of the substrate adapted to electrically engage external contacts (e.g., bond pads, solder bumps) on the components. The interconnect also includes insulated conductive members through the substrate, which provide direct electrical paths from the interconnect contacts to a backside of the substrate. The conductive members can be formed by laser machining openings in the substrate, and then filling the openings with a conductive material (e.g., metal, conductive polymer). The conductive members can also include pads with contact balls, configured for electrical interface with a test apparatus, such as test carrier or wafer handler. The interconnect can be used to construct test systems for testing semiconductor components, or to construct chip scale packages and multi chip modules.